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EXAMINER
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KANE, CORDELIA P

ART UNIT	PAPER NUMBER
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2109

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/824,174

Applicant(s)

VAUGHAN ET AL.

Examiner

Cordelia Kane

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/24/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper, No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is responsive to the non-provisional application filed on April 14, 2004. Claims 1 – 24 are pending. Claims 1, 11, 20, 22 and 24 are independent.

#### ***Information Disclosure Statement***

2. The information disclosure statement filed April 24, 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

#### ***Drawings***

3. A new corrected drawing for Figure 1 in compliance with 37 CFR 1.121(d) is required in this application because the lines, numbers and letters are not uniform, clean and well defined (of a generally poor quality) (37 CFR 1.84(l)). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities: the radio is referred to as a "two way radio" throughout the claims and specification but in the line 7 of claim 1 it is referred to as "2 way radio". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 an encrypted analog signal is output. In dependant claim 2 a digitizer creates a digital signal but at no point does applicant explain when the signal becomes analog.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 2, 6, 7, 11, 12, 16, 17, 20, 22, and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by Peter Courtney et al's British publication GB 2388279 A. Referring to claim 1, Courtney 279 teaches:

Art Unit: 2109

- a. A microphone that receives audio signals (page 8, lines 17-18) and converts them into an electrical signal (page 6, lines 24-25).
  - b. An encryption module that encrypts the signal capable of being received by a mobile telephone (page 7, lines 1-4).
  - c. The signal is then transmitted to a mobile telephone via a Bluetooth transceiver (page 8, line 23). While a two way radio is not explicitly stated a Bluetooth device is a type of two way radio.
9. Referring to claim 2, Courtney 279 teaches:
- d. That the electrical signal is also digital (page 6, line 25).
  - e. A vocoder that encodes the signal (page 8, line 19).
  - f. An encryption module that encrypts the voice coded signals (page 8, line 21).
  - g. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 8, line 23). While it does not explicitly state that there is a modulator and modulator is inherently included in a Bluetooth transceiver.
10. Referring to claim 6, Courtney 279 teaches an encryption module (page 8, line 21). It would be inherent that the module would be created using software.
11. Referring to claim 7, Courtney 279 teaches that there is a catalogue of keys (page 10, line 25). It would be inherent that this catalogue would be stored in memory.
12. Referring to claim 10, Courtney 279 teaches:

Art Unit: 2109

h. A Bluetooth transceiver for receiving the analog signals (page 9, line 1).

While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.

i. A decryption module to decrypt the encrypted signal (page 9, line 2).

j. A voice decoding device (page 9, lines 3-4).

k. That the signals are converted into analog (page 7, line 11).

l. Outputting the voice signal via a speaker (page 9, lines 4-5).

13. Referring to claim 11, Courtney 279 teaches:

m. A Bluetooth transceiver that receives the analog signal (page 9, line 1).

n. A decryption module for decrypting the signal (page 9, line 2).

o. A speaker for outputting the voice signal (page 9, lines 4-5).

14. Referring to claim 12, Courtney 279 teaches:

p. A Bluetooth transceiver for receiving the analog signals (page 9, line 1).

While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.

q. A decryption module to decrypt the encrypted signal (page 9, line 2).

r. A voice decoding device (page 9, lines 3-4).

s. That the signals are converted into analog (page 7, line 11).

15. Referring to claim 20, Courtney 279 teaches:

t. A microphone that receives audio signals (page 8, lines 17-18) and converts them into an electrical signal (page 6, lines 24-25).

u. That the electrical signal is also digital (page 6, line 25).

Art Unit: 2109

- v. A vocoder that encodes the signal (page 8, line 19).
  - w. An encryption module that encrypts the voice coded signals (page 8, line 21).
  - x. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 8, line 23). While it does not explicitly state that there is a modulator and modulator is inherently included in a Bluetooth transceiver.
16. Referring to claim 22, Courtney 279 teaches:
- y. A Bluetooth transceiver for receiving the analog signals (page 9, line 1). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.
  - z. A decryption module to decrypt the encrypted signal (page 9, line 2).
  - aa. A voice decoding device (page 9, lines 3-4).
  - bb. That the signals are converted into analog (page 7, line 11).
  - cc. A speaker for outputting the voice signal (page 9, lines 4-5).
17. Referring to claim 24, Courtney 279 teaches:
- dd. A microphone that receives audio signals (page 8, lines 17-18) and converts them into an electrical signal (page 6, lines 24-25).
  - ee. That the electrical signal is also digital (page 6, line 25).
  - ff. A vocoder that encodes the signal (page 8, line 19).
  - gg. An encryption module that encrypts the voice coded signals (page 8, line 21).

Art Unit: 2109

- hh. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 8, line 23). While it does not explicitly state that there is a modulator and modulator is inherently included in a Bluetooth transceiver.
  - ii. Receiving the signal at the mobile telephone (page 8, line 33).
  - jj. Passing the signal onto the headset/microphone unit (Figure 1, 9 to 14).
  - kk. A Bluetooth transceiver for receiving the analog signals (page 9, line 1). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.
  - ll. A decryption module to decrypt the encrypted signal (page 9, line 2).
  - mm. A voice decoding device (page 9, lines 3-4).
  - nn. That the signals are converted into analog (page 7, line 11).
  - oo. A speaker for outputting the voice signal (page 9, lines 4-5).
18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
- A person shall be entitled to a patent unless –
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
19. Claims 1, 2, 6, 7, 11, 12, 16, 17, 20, 22, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Peter Courtney et al's US Publication 2006/0198520 A1. Referring to claim 1, Courtney 520 teaches:



Art Unit: 2109

pp. A microphone that receives audio signals and converts them into an electrical signal (page 3 paragraph 28).

qq. An encryption module that encrypts the signal capable of being received by a mobile telephone (page 3 paragraph 28).

rr. The signal is then transmitted to a mobile telephone via a Bluetooth transceiver (page 3 paragraph 31). While a two way radio is not explicitly stated a Bluetooth device is a type of two way radio.

20. Referring to claim 2, Courtney 520 teaches:

ss. That the electrical signal is also digital (page 3, paragraph 28).

tt. A vocoder that encodes the signal (page 3, paragraph 31).

uu. An encryption module that encrypts the voice coded signals (page 3, paragraph 31).

vv. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 3, paragraph 31). While it does not explicitly state that there is a modulator and modulator is inherently included in a Bluetooth transceiver.

21. Referring to claim 10, Courtney 520 teaches:

ww. A Bluetooth transceiver for receiving the analog signals (page 3, paragraph 31). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.

xx. A decryption module to decrypt the encrypted signal (page 3, paragraph 31).

- yy. A voice decoding device (page 3, paragraph 31).
  - zz. That the signals are converted into analog (page 3, paragraph 28).
  - aaa. Outputting the voice signal via a speaker (page 3, paragraph 31).
22. Referring to claim 11, Courtney 520 teaches:
- bbb. A Bluetooth transceiver that receives the analog signal (page 3, paragraph 31).
  - ccc. A decryption module for decrypting the signal (page 3, paragraph 31).
  - ddd. A speaker for outputting the voice signal (page 3, paragraph 31).
23. Referring to claim 12, Courtney 520 teaches:
- eee. A Bluetooth transceiver for receiving the analog signals (page 3, paragraph 31). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.
  - fff. A decryption module to decrypt the encrypted signal (page 3, paragraph 31).
  - ggg. A voice decoding device (page 3, paragraph 31).
  - hhh. That the signals are converted into analog (page 3, paragraph 28).
24. Referring to claim 16, Courtney 520 teaches an encryption module (page, 3, paragraph 31). It would be inherent that the module would be created using software.
25. Referring to claim 17, Courtney 520 teaches that there is a catalogue of keys (page 4, paragraph 38). It would be inherent that this catalogue would be stored in memory.
26. Referring to claim 20, Courtney 520 teaches:

Art Unit: 2109

- iii. A microphone that receives audio signals (page 3, paragraph 31) and converts them into an electrical signal (page 3, paragraph 28).
  - jjj. That the electrical signal is also digital (page 3, paragraph 28).
  - kkk. A vocoder that encodes the signal (page 3, paragraph 31).
  - lll. An encryption module that encrypts the voice coded signals (page 3, paragraph 31).
  - mmm. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 3, paragraph 31). While it does not explicitly state that there is a modulator, a modulator is inherently included in a Bluetooth transceiver.
27. Referring to claim 22, Courtney 520 teaches:
- nnn. A Bluetooth transceiver for receiving the analog signals (page 3, paragraph 31). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.
  - ooo. A decryption module to decrypt the encrypted signal (page 3, paragraph 31).
  - ppp. A voice decoding device (page 3, paragraph 31).
  - qqq. That the signals are converted into analog (page 3, paragraph 28).
  - rrr. A speaker for outputting the voice signal (page 3, paragraph 31).
28. Referring to claim 24, Courtney 520 teaches:
- sss. A microphone that receives audio signals (page 3, paragraph 31) and converts them into an electrical signal (page 3, paragraph 28).

Art Unit: 2109

- ttt. That the electrical signal is also digital (page 3, paragraph 28).
- uuu. A vocoder that encodes the signal (page 3, paragraph 31).
- vvv. An encryption module that encrypts the voice coded signals (page 3, paragraph 31).
- www. Transmitting a signal capable of being received by a mobile telephone via a Bluetooth transceiver (page 3, paragraph 31). While it does not explicitly state that there is a modulator and modulator is inherently included in a Bluetooth transceiver.
- xxx. Receiving the signal at the mobile telephone (page 3, paragraph 31).
- yyy. Passing the signal onto the headset/microphone unit (Figure 1, 9 to 14).
- zzz. A Bluetooth transceiver for receiving the analog signals (page 3, paragraph 31). While a demodulator is not explicitly stated, a demodulator is inherently part of a Bluetooth transceiver.
- aaaa. A decryption module to decrypt the encrypted signal (page 3, paragraph 31).
- bbbb. A voice decoding device (page 3, paragraph 31).
- cccc. That the signals are converted into analog (page 3, paragraph 28).
- dddd. A speaker for outputting the voice signal (page 3, paragraph 31).

***Claim Rejections - 35 USC § 103***

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2109

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 13, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over either Courtney 279 or Courtney 520 as applied above, and further in view of

Steven Barrett's US Patent 5,185,797. Referring to claims 3 and 13, each of Courtney

279 and Courtney 520 disclose all the limitations of the parent claim. Neither Courtney

279 nor Courtney 520 appear to explicitly disclose amplifying the electrical signal.

However, Barrett discloses amplifying the electrical signal before transmission (column

4, lines 15-19) and amplifying the signal before being sent to the speaker (column 4,

lines 2-5). Courtney 279, Courtney 520 and Barrett are analogous art because they are

from the same field of endeavor, radio communication. At the time of the invention, it

would have been obvious to one of ordinary skill in the art, having the teachings of

Courtney and Barrett before him or her, to modify Courtney to include the signal

amplification of Barrett. The motivation for doing so would have been that it is a well

practiced procedure to those skilled in the art. Therefor it would have been obvious to

Art Unit: 2109

combine Barrett with Courtney to obtain the invention as specified in the claims 3 and 13.

31. Referring to claim 21, is the method to perform the steps of the system in claim 3. Since the system is rejected so is the method.

32. Referring to claim 23, is the method to perform the steps of the system of claim 13. Since the system is rejected so is the method.

33. Claims 4 and 14 are rejected under 35 USC 103 (a) as being obvious over either Courtney 279 or Courtney 520 as applied above and further in view of Jong Yang's US Publication 2003/0026170 A1. Each of Courtney 279 and Courtney 520 disclose all the limitations of the parent claim. Neither Courtney 279 nor Courtney 520 appear to explicitly disclose the two way radio being analog. However, Yang discloses multiple wireless communication devices are interchangeable including an analog two way radio (page 2, paragraph 31). Courtney 279, Courtney 520 and Yang are analogous art because they are from the same field of endeavor, wireless communication. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Courtney and Yang before him or her, to modify Courtney to include an analog two way radio of Yang. The motivation for doing so would have been that different wireless communications are interchangeable. Therefore it would have been obvious to combine Yang with Courtney to obtain the invention as specified in claims 4 and 14.

Art Unit: 2109

34. Claims 5 and 15 are rejected under 35 USC 103 (a) as being obvious over either Courtney 279 or Courtney 520 as applied above, and further in view of Andrey Vyshedskly et al's US Publication 2004/0076303 A1. Each of Courtney 279 and Courtney 520 disclose all the limitations of the parent claim. Neither Courtney 279 nor Courtney 520 appear to explicitly disclose having a microphone jack to connect the headset to the mobile phone. However, Vyshedskly discloses that a microphone jack can be used instead of Bluetooth. Courtney 279, Courtney 520 and Vyshedskly are analogous art because they are from the same field of endeavor, wireless communication. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Courtney and Vyshedskly before him or her, to modify Courtney to include the microphone jack of Vyshedskly. The motivation for doing so would have been that a microphone jack is well known in the art. Therefore it would have been obvious to combine Vyshedskly with Courtney to obtain the invention as specified in claims 5 and 15.

35. Claims 8 and 18 are rejected under 35 USC 103 (a) as being obvious over either Courtney 279 or Courtney 520 as applied above and further in view of John Hardwick's US Patent 6,131,084. Each of Courtney 279 and Courtney 520 disclose all the limitations of the parent claims. Neither Courtney 279 nor Courtney 520 appear to explicitly disclose the vocoder being AMBE. However, Hardwick discloses an AMBE vocoder (column 3, line 10). Courtney 279, Courtney 520 and Hardwick are analogous art because they are from the same field of endeavor, signal encoding. At the time of

Art Unit: 2109

the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Courtney and Hardwick before him or her, to modify Courtney to include AMBE of Hardwick. The motivation for doing so would have been that AMBE is a more robust vocoder (column 3, lines 12-13). Therefor it would have been obvious to combine Hardwick with Courtney to obtain the invention as specified in claims 8 and 18.

36. Claims 9 and 19 are rejected under 35 USC 103 (a) as being obvious over Courtney 279 or Courtney 520 as applied above and further in view of Raymond Pang et al's US Patent 6,366,117 B1. Each of Courtney 279 and Courtney 520 disclose all the limitations of the parent claim. Neither Courtney 279 nor Courtney 520 appear to explicitly disclose using AES for encryption/decryption. However, Pang discloses that AES is a more secure encryption algorithm (column 1, lines 42-43). Courtney 279, Courtney 520 and Pang are analogous art because they are from the same field of endeavor, encryption. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Courtney and Pang before him or her, to modify Courtney to include AES of Pang. The motivation for doing so would have been that AES is more secure (column 1, lines 42-43). Therefor it would have been obvious to combine Pang with Courtney to obtain the invention as specified in claims 9 and 19.



***Conclusion***

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Michael Kotzin's US Patent 6,553,228 B1 teaches that Bluetooth standard has been implemented as a two way radio communication (column 4, line 23). Toshiki Miyasaka et al's US Publication 2001/0018635 A1 discloses that a modulator is part of the Bluetooth device (page 3, paragraph 44).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Kane whose telephone number is 571-272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2109

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CPK

  
JOSEPH DEL SOLE  
SUPERVISORY PATENT EXAMINER

5/21/07